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An outline of an approach to setting targets to deliver similar environmental benefits to those from set-aside and other uncultivated land.

1: The following sets out very briefly the approach recommended by Natural England to Defra. The full document should be accessible via the cross compliance consultation page on the Defra website shortly (www.defra.gov.uk/corporate/consult/gaec/index.htm).

The types of benefit that developed on uncultivated land are summarised in the Natural England paper and also in the Defra consultation document and Defra Information Note of April 2009. In shorthand these are:

Benefit	type of set-aside/uncultivated land
Farmland birds	rotational blocks of land
Other wildlife	longer term, mainly over 5 years old
Protection of water courses	longer term blocks, mainly over 2 years, and margins if in right places

In landscapes that were predominately used for arable cultivation even small areas of uncropped land could contribute to the survival of wildlife.

2: A range of management options can deliver similar benefits and some will do this more efficiently (a smaller area of land is required on a pro rata basis), or more effectively (for example because they cover the hungry gap for farmland birds in spring when food is a key limiting factor).

The efficiency/effectiveness of management options can be compared to set-aside and uncultivated land. Relevant factors include location and age; older sites tend to have a more 'mature flora', can be richer in food plants for insects and birds, and are less easily reproduced in the short term. These are areas that we would wish to retain and positively manage for the benefits they can provide.

In other cases the management option is, on average, more effective than set-aside. For example, research indicates that 1 ha of land under wild bird food option provides winter feed that is equivalent to 7 ha of rotational set-aside.

3: It is possible to identify and use a conversion factor for each form of management in terms of 'equivalence to set-aside'. Using this approach the areas required to deliver each of the key benefits provided by set-aside/uncultivated land under different management regimes can be derived. (See for example the NE paper which summarises these, drawing on a series of peer reviewed studies).

4: Overall, it is possible to identify a selection of management options and, applying the conversion factor, set out the areas needed from a series of individual management practices to deliver the target of re-capturing the key benefits of set-aside. Whilst there is a need for a minimum area and geographical spread of land, there is **'trade off' between the total area required and types of management** - which also have to be appropriate to the

location. Nonetheless using this information it is feasible to identify a favourable mix of options that would be **twice as effective as rotational set aside and other uncultivated land** for farmland birds, and would deliver benefits for other wildlife as well.

If the remaining oldest permanent set-aside and other uncultivated land, including that managed as margins (outside agri-environment schemes), is retained, then **most of the benefits provided for other wildlife and natural resource protection could be secured** if they are in the right location and are managed appropriately.

5: Using the conversion factors, we can work out how much land is needed to deliver the same benefits that developed on set-aside and other uncultivated land – **the following figures assume a favourable mix of management options**. This is illustrated below using the average levels of productivity to restore the benefits on set-aside and other uncultivated land. The area used, 480,000ha, is the average reported in the June Census results for 2005-2007.

<u>Type</u>	<u>Area</u>	<u>Efficiency</u>	
Rotational:	220,000ha	0.5	in the right mix of options
Permanent:	210,000ha	0.5	the oldest areas in the right place
Margins	50,000ha	0.5	areas on erodible soil next to water

On this basis the overall targets are in the order of :

- 110,000 ha to replace rotational set-aside and other uncultivated land to deliver benefits for all three requirements for farmland birds (winter food, summer food, breeding habitat) and to contribute to the needs of open ground species such as Brown Hare.
- 105,000 ha to replace non-rotational set-aside and other uncultivated land to deliver benefits for botanical diversity, habitat for small mammals and Brown Hare; and to contribute to resource protection when in the right place
- 25,000 ha of margins and field corners previously in non-rotational set-aside and other uncultivated land that delivered resource protection benefits because it was on vulnerable soils, as well as making some contribution to benefits for small mammals and Brown Hare.

What remained in place in 2008 (when set-aside requirement was 0% and more land was cultivated than in recent years) was:

Rotational	28,000ha (target of 110,000 ha)
'Permanent'	91,000ha (target of 105,000 ha)
Margins	25,000ha (target of 25,000 ha)

Whilst this was not in the right mix of management options, and may not have included all the best permanent and margin areas or have achieved a good geographical spread, it clearly goes some way towards the required targets. There is a small shortfall in area of non-rotational uncultivated land (assuming the land is in favourable management), but a

much **bigger shortfall in rotational uncultivated land** (which has dropped from 180,000ha in 2007 to 28,000 in 2008). **The challenge** under both options A and B is **to secure these additional areas and get the whole 240,000ha into appropriate management** to deliver the benefits required. This would be **additional to land in existing agri-environment schemes** where there are a large number of agreements with land in buffer strips that are already contributing towards resource protection and a smaller number of agreements with in-field options that help towards our target for farmland birds. Natural England has a target to expand the land area in agreements to 70% in 2011 as well as the area in the key arable in-field options for farmland birds.

Natural England

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